Polish Seismological Network 2004



Polish Seismological Stations maintained by the <u>Institute of Geophysics, Polish</u> <u>Academy of Sciences.</u>

Staff at IGF-PAS Warsaw site:

- Pawel Wiejacz (head of General Seismology Lab and of PLSN); pwiejacz@igf.edu.pl
- Przemys@aw Kowalski; *przemas@igf.edu.pl*, Wies@awa Jankowska; *wj@igf.edu.pl* (data analysis of SUW-KWP-WAR-GKP)
- bulletin section; *dbiul@igf.edu.pl* (2 *staff* + 1 *vacancy*)
- Hardware Department (6 staff)

Other network operators in Poland working for industry:

- Central Institute of Mining, 14 SP sites in Upper Silesia
- Coal Mines in Upper Silesia about 20 networks of 6-16 SP sensors each
- Copper Mines in Lubin area 3 networks of about 30 SP sensors each
- Belchatow Brown Coal mine network of 8 SP sensors

Broadband sites:

Continuous broadband data from these stations are transmitted to IGF-PAS central site at Warsaw and made available by seedlink - to international centers and seismological centers of neighbor countries as a rule, other parties upon consideration.

The same data - with exception of OJC - should be available by autodrm@igf.edu.pl with 1 day delay,

however nobody uses this method and we have no control if it indeed works. Continuous broadband data is stored on network attached storage - copies of the data made on CDROM. High sampling detected data - whenever available - are stored at the stations on CDROM. Data format is miniseed in case of STS-2 (and formerly BB-13) data; digital data from other sensors use the MSS-format which is used only in Poland.

SUW Suwa ki, 54.0125N, 23.1808E, 152 m, opened 1995/11/06 STS-2+Quanterra, continuous 20 Hz, transmitted to Warsaw every hour by modem <u>FDSN station</u>, cooperated with GFZ-Potsdam

KWP Kalwaria Pac@awska, 49.6314N, 22.7075E, 448 m, opened 1999/06/24 STS-2+Quanterra, continuous 20 Hz, transmitted to Warsaw every hour by modem cooperated with GFZ-Potsdam

WAR Warszawa (*Warsaw*), 52.2417N, 21.0236E, 110 m Observatory exists since 1939; digital recording started 1996/07/15 on BB-13s Since 2001; STS-2+MK-6 DAS (24-bit), continuous 20 Hz, transmitted NRT to IGF-PAS Station is noisy due to its location in the city.

GKP G rka Klasztorna, 53.2697N, 17.2367E, 115 m, opened 2004/05/28 STS-2+MK-6 DAS (24-bit), continuous 20 Hz, transmitted NRT to IGF-PAS 100 Hz detected data available on demand. Station in relatively noisy especially during day. 1997-1999 existed a temporary broadband site at CZA, 20 km from GKP

KSP Ksi��, 50.8428N, 16.2931E, 353 m

Observatory exists since 1971; digital recording started 1997 on BB-13s 1990-1992 intermittently within GSETT-2 STS-2+MK-6 DAS (24-bit), continuous 20 Hz, transmitted NRT to IGF-PAS

100 Hz detected data analyzed on site - mostly Lubin area induced events GS-13 recording in parallel; analogue paper recording off KIRNOS and SM-3 *3 staff; kspobs@igf.edu.pl*

OJC Ojc�w, 50.2195N, 19.7984E, 391 m

Observatory exists since 1991 - replacing the former site of KRA; digital recording since 1992 (triggered SP), continuous broadband since August, 1999. STS-2+MK-6 DAS (24-bit), continuous 20 Hz, transmitted NRT to IGF-PAS 100 Hz detected data analyzed on site - mostly Upper Silesian induced events GS-13 recording in parallel; analogue paper recording off SM-3

Additional torsional (SP) seismometers 4 staff, analyzes also data from NIE station; nlkozlak@cyf-kr.edu.pl

Observatory named after Maurycy Pius Rudzki (1862-1916), pioneer of Polish Geophysics.

Short period sites:

Short period data is analyzed and stored either on site (at RAC) or at OJC (in case of NIE). On-demand data access is possible in case of RAC.

RAC Racib�rz, 50.0833N, 18.1942E, 209 m

Observatory exists since 1928 (erected by German prof. Karl Mainka)

Original 6 filial stations either handed over to the Central Institute of Mining or discontinued after World War 2. Digital since 1999. SM-3+MK-5 DAS (16-bit), triggered 100 Hz, analyzed on site KIRNOS recording at 20 Hz in parallel, analyzed on site Analogue SM-3 and KIRNOS recording on paper 2 staff; w.wojtak@wp.pl

NIE Niedzica, 49.4189N, 20.3131E, 649 m

Observatory exists since 1970 - until 1992 at another site about 1 km away Digital since 1996 but the early MK-2 DAS (used until 2002) gave very few detections SM-3+MK-5 DAS (16-bit), triggered 100 Hz, analyzed at OJC Data transferred to OJC on ZIP floppies; no internet connection Two extra vertical sensors at both ends of dam on Dunajec River Analogue recording on paper Dam has a hydroelectric power plant working in peak hours, therefore noise level varies greatly. *1 part-time staff to change papers*

Non-PLSN site:

Institute of Geophysics, Polish Academy of Sciences maintains a 7-site, 11-sensor (5 sites only vertical component) local network at its polar base at Hornsund, Svalbard. The Svalbard site is however maintained not by the Department of Seismology but by the Department of Polar Research; therefore its does not belong to the PLSN Polish Seismological Network. A similar station at Arctowski station in the Antarctic has been closed after snowfall damage in mid-1990s. Data from HSP is available only from the Department of Polar Research, IGF-PAS.

HSP Hornsund, 77.0019N, 15.5436E (within 1100 m), 5-15 m SM-3+MK-6 DAS (24-bit), continuous 20 Hz & triggered 100 Hz, analyzed on site

Information as of August 30, 2004 - presented by Pawe Wiejacz